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ABSTRACT

The high school vocational education curriculum should not be isolated and reformed without considering the experiences of young people leading up to and following high school. At the elementary level a new emphasis needs to be placed on acquisition and application of basic skills. In junior high school, expectations for growth in the basic skills must be raised and student energies directed toward exploration of demands of the real world of adulthood and work. Vocational education in the senior high school should teach work habits and attitudes and provide a well-balanced foundation in technology. Despite criticisms of out-dated equipment in comprehensive schools and no access to advanced academic courses in separate vocational education facilities, vocational education should not be delayed until the postsecondary level, because of its holding power. Nor should the content of vocational education programs be made too general to be identifiable with a specific job. Practical directions for vocational education program improvement would be to improve its image as being relevant to today's work world, improve efforts to ensure that program graduates can demonstrate mastery of competencies, and increase interaction among instructors, students, and businesses. Relationships between vocational education teachers and academic and general teachers also need to be improved. (YLB)

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A STATEMENT ON VOCATIONAL EDUCATION IN THE SCHOOLS

PRESENTED TO THE
NATIONAL COMMISSION ON SECONDARY
VOCATIONAL EDUCATION
OF THE
NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION

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A STATEMENT ON VOCATIONAL EDUCATION IN THE SCHOOLS

THE WHOLE ISSUE OF THE AMERICAN HIGH SCHOOL CAN NEVER BE EXAMINED RESPONSIBLY WITHOUT LOOKING AT EVERYTHING THAT AFFECTS THE YOUTH IN THEIR SCHOOLS AND OTHER COMMUNITY INSTITUTIONS. THE YOUTH EXPERIENCE, OR WHAT WE MAY DESIGN FOR YOUTH, CANNOT BE SEPARATED FROM THE VALUES HELD BY THEIR PARENTS AND BY THE PUBLIC AND PRIVATE ORGANIZATIONS THAT SPONSOR AND INFLUENCE BOTH WHAT EXPERIENCES THEY ARE ALLOWED AND AT WHAT PERIOD IN THEIR DEVELOPMENTAL GROWTH THEY ARE PERMITTED A GIVEN EXPERIENCE.

THIS IS ONE REASON WHY, AS ASSISTANT SECRETARY FOR VOCATIONAL AND ADULT EDUCATION, I AM PLEASED WE ARE REEXAMINING THE HIGH SCHOOL CURRICULUM. I BELIEVE, HOWEVER, WE SHOULD NOT AND MUST NOT ISOLATE THE HIGH SCHOOL CURRICULUM AND TRY TO REFORM IT WITHOUT CONSIDERING THE EXPERIENCES OF YOUNG PEOPLE LEADING UP TO IT AND THOSE TO FOLLOW IT. I ALSO BELIEVE THAT WE MUST LOOK AT BROADER ISSUES THAN JUST VOCATIONAL EDUCATION, NARROWLY DEFINED, AS BEING DEVOTED TO SPECIFIC JOB PREPARATION AND OFFERED IN THE LAST TWO YEARS IN THE HIGH SCHOOL. I BELIEVE WE MUST LOOK AT THE TRANSITION OF YOUTH FROM CHILDHOOD TO ADULTHOOD IN THE BROADER CONTEXT OF THE PURPOSES OF EDUCATION FOR ALL YOUTH AND ADULTS, INCLUDING

THOSE WHO ARE HANDICAPPED OR DISADVANTAGED AND THOSE WHO FIND THEIR FACILITY IN ENGLISH TO BE A BARRIER TO CITIZENSHIP, LEARNING, AND EMPLOYMENT. VOCATIONAL EDUCATION IN THE HIGH SCHOOL WILL BEST BE SERVED BY HAVING ITS PURPOSES, TIMING, AND CONTRIBUTIONS DELINEATED AMONG THE TOTAL EXPERIENCES PROVIDED BY THE SCHOOLS AND THE OUTCOMES THEY ARE DESIGNED TO PRODUCE.

A MAJOR PREFERENCE TO ME IS THAT THIS PANEL, IN ITS RECOMMENDATIONS, TRY TO MOVE US TOWARD A SYSTEM WHERE VOCATIONAL EDUCATION FOR STUDENTS OF ALL ABILITY LEVELS AND CONDITIONS TAKES ITS PLACE AS A FULL AND EQUAL PARTNER WITH ACADEMIC EDUCATION IN THE OVERALL SCHOOL SYSTEM. PRESIDENT REAGAN GAVE US HIS PERSONAL COMMITMENT TO THAT END WHEN HE SAID TO THE VOCATIONAL INDUSTRIAL CLUBS OF AMERICA (VICA) LEADERSHIP CONFERENCE ON JUNE 29, 1983:

> AND EACH GENERATION MUST REALIZE THAT TO ACHIEVE AMERICA'S POTENTIAL, WE NEED ALL OUR PEOPLE WITH ALL THEIR TALENTS WORKING TOGETHER. AND THAT'S WHY OUR DRIVE FOR EXCELLENCE IN EDUCATION MUST REACH EVERY STUDENT IN EVERY SCHOOL IN EVERY SUBJECT. WE SHOULD SEE THAT ALL OUR YOUNG PEOPLE GET A GOOD GROUNDING IN ENGLISH AND LITERATURE, HISTORY, MATH, SCIENCE AND THE OTHER BASICS. BUT WE MUST ALSO RECOGNIZE THAT OUR VOCATIONAL CLASSROOMS ARE JUST AS IMPORTANT AS ANY OTHER. AND WE SHOULD INSIST THAT THE VOCATIONAL COURSES WE TEACH PREPARE THIS GENERATION WITH THE SKILLS THEY NEED FOR REAL JOBS.

THE NATIONAL ACADEMY OF SCIENCES, BEGINNING IN 1981, ASSEMBLED A DISTINGUISHED GROUP OF SCHOLARS AND LEADERS IN BUSINESS, INDUSTRY, LABOR, AND EDUCATION AS A STUDY COMMITTEE. IN SEPTEMBER 1983, THEY CULMINATED THEIR WORK WITH THE REPORT, EDUCATION FOR TOMORROW'S JOBS, AT THE END OF WHICH THEY CONCLUDED:

> WE WOULD LIKE TO SEE VOCATIONAL EDUCATION BECOME AN EQUAL PARTNER WITH COLLEGE-PREPARATORY EDUCATION IN THE EDUCATION SYSTEM AS A WHOLE. THE MOST EFFECTIVE VOCATIONAL PROGRAMS ARE DESERVING OF THE RESPECT NOW, AND WE WOULD LIKE TO SEE ALL PROGRAMS RAISED TO THAT LEVEL OF QUALITY AND ESTEEM. (NATIONAL ACADEMY PRESS 1983)

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WE HAVE MADE FEW CHANGES IN OUR OVERALL EXPECTATIONS OF EDUCATIONAL INSTITUTIONS OVER THE YEARS, THOUGH WE MAY ARGUE ABOUT THE LEVEL AT WHICH EXPECTATIONS SHOULD BE REALIZED. AT A MINIMUM, WE CAN SURELY AGREE THAT WE REMAIN COMMITTED TO THE HIGH SCHOOLS AS THE PRIMARY FORMAL VEHICLES FOR PROMOTING CITIZENSHIP. AND IT WOULD BE FOOLISH TO EXPECT THAT CITIZENSHIP RESPONSIBILITIES COULD BE READILY DISCHARGED BY A HIGH SCHOOL GRADUATE WITHOUT THE ABILITY TO READ, WRITE, COMPUTE, RELATE TO OTHER PEOPLE, AND EXERCISE FISCAL AND LEGAL RESPONSIBILITIES EFFECTIVELY.

IN ADDITION, FOR MANY YOUNG PEOPLE, IT IS IN THE HIGH SCHOOLS AND NOT IN THE POSTSECONDARY OR HIGHER EDUCATION INSTITUTIONS, THAT WE HAVE OUR LAST OPPORTUNITY TO SYSTEMATICALLY INFLUENCE THE YOUNG STUDENT'S ABILITY TO EXERCISE GOOD HABITS NECESSARY FOR EFFECTIVE CONSUMERISM, RESPONSIBLE PARENTING, NUTRITION, HEALTH, AND THE ABILITY TO ENGAGE SUCCESSFULLY IN WORK AS THE PRIMARY MEANS FOR LIVELIHOOD. WITHOUT THE ABILITY TO EARN A LIVELIHOOD, LITERACY HAS LITTLE MEANING, EXCEPT FOR THE INDEPENDENTLY WEALTHY AND THE OTHER GOALS OF EDUCATION, INCLUDING THE FULL BENEFITS OF CITIZENSHIP, ARE ELUSIVE AT BEST. HOWEVER YOU RANK THEM IN PRIORITY, I BELIEVE WE CAN AGREE THAT FAILURE TO ACCOMPLISH THESE MINIMUM OUTCOMES FOR A LARGE NUMBER OF ADULTS IN OUR SOCIETY, WILL, FOR INDIVIDUAL TAXPAYERS AND SOCIETY AS A WHOLE, EXACT A HEAVY PENALTY.

WHEN I NARROW MY THINKING TO THE GOAL OF PREPARING YOUNG PEOPLE FOR EMPLOYABILITY, I FIND THAT I HAVE LITTLE QUARREL WITH THE OUTCOMES EXPRESSED IN THE REPORT, "HIGH SCHOOLS AND THE CHANGING WORKPLACE" RELEASED BY THE NATIONAL ACADEMY OF SCIENCES (1984). I SIMPLY CANNOT ARGUE WITH THE NECESSITY FOR YOUNG PEOPLE TO GRADUATE FROM HIGH SCHOOL WITH THE CORE COMPETENCIES OF:

COMMAND OF THE ENGLISH LANGUAGE

REASONING AND PROBLEMSOLVING

READING

WRITING

COMPUTATION

SCIENCE AND TECHNOLOGY

ORAL COMMUNICATION

INTERPERSONAL RELATIONSHIPS

SOCIAL AND ECONOMIC STUDIES

PERSONAL WORK HABITS AND ATTITUDES

I FIND MYSELF EVEN MORE REASSURED BY THE ACADEMY REPORT WHEN I READ BELOW THE MAJOR HEADINGS AND CONSIDER THE MANNER IN WHICH THE CORE COMPETENCIES HAVE BEEN DEFINED. REGARDING COMMAND OF THE ENGLISH LANGUAGE, FOR EXAMPLE, THE REPORT STATES:

> ALTHOUGH A SECOND LANGUAGE MAY BE USEFUL IN JOB MOBILITY, ALL AMERICAN YOUNG PEOPLE, REGARDLESS OF THEIR HOME OR NATIVE TONGUE, NEED A FUNCTIONAL COMMAND OF STANDARD ENGLISH IN ITS WRITTEN AND SPOKEN FORMS.

I APPLAUD THE ACADEMY'S COMMITTEE ON SCIENCE, ENGINEERING, AND PUBLIC POLICY FOR CUTTING THROUGH THE MORASS AND LAYING OUT THE "BOTTOM LINE" FOR EVERY HIGH SCHOOL GRADUATE IN THE COMPETENCIES IDENTIFIED. THE COMMITTEE REJECTS SPECIFIC SKILLS TRAINING ONLY AS A SUBSTITUTE FOR THE CORE COMPETENCIES AND RECOGNIZES THAT TRAINING IN SPECIFIC VOCATIONAL SKILLS WILL ENHANCE EMPLOYABILITY FOR THOSE INTENDING TO ENTER THE WORKFORCE DIRECTLY AFTER COMPLETING HIGH SCHOOL. IT HAS CHARGED SCHOOL BOARDS WITH DETERMINING THE ENVIRONMENTS WITHIN WHICH CHILDREN LEARN BEST AND WITH INSISTING THAT PROGRAMS OF STUDY FOR ALL YOUNG PEOPLE INCLUDE EXPOSURE TO THE WORLD OF WORK.

THE PANEL GOES ON TO ASSERT THAT:

> THE BASIC RESPONSIBILITY OF SCHOOLS IS TO EQUIP STUDENTS WITH THE CORE COMPETENCIES REQUISITE TO LIFE-LONG LEARNING. A SECOND IMPORTANT RESPONSIBILITY IS TO MAKE YOUNG PEOPLE AWARE OF THE POSSIBILITIES AND CHALLENGES OF THEIR FUTURE CAREERS. CAREER GUIDANCE SHOULD GO BEYOND MERELY PROVIDING INFORMATION ON

SPECIFIC JOBS OR INDUSTRIES QUITE LATE IN A STUDENT'S SCHOOL CAREER. GUIDANCE SHOULD INCLUDE ACADEMIC, SOCIAL, AND PERSONAL CONCERNS AS WELL AS THE CULTIVATION OF ATTITUDES AND HABITS CONDUCIVE TO SUCCESS IN THE WORLD OF WORK. STUDENTS NEED TO UNDERSTAND THE WORK ETHIC -- THAT WORK IS A CENTRAL REALITY OF LIFE -- ONE THAT, IN ADDITION TO PROVIDING AN INCOME, CAN PAY WELL IN SATISFACTION AND SELF-ESTEEM.

THIS LEADS ME TO OBSERVE WITH CONSTERNATION THAT THE "EXCELLENCE IN EDUCATION MOVEMENT" APPEARS TO BE FOCUSING ITSELF PRIMARILY AT THE SECONDARY LEVEL AS IT IS IMPLEMENTED AT THE STATE AND LOCAL LEVELS. NO DOUBT THIS IS WHERE THE SYMPTOMS OF BROADER PROBLEMS BECOME MOST VISIBLE. BUT VOCATIONAL EDUCATORS HAVE BEEN OBSERVING FOR MANY YEARS -- NO LESS THAN EMPLOYERS AND HIGHER EDUCATION INSTITUTIONS --THAT THEY WERE DEALING WITH STUDENTS WITH LOWER AND LOWER ABILITIES IN THE BASIC SKILLS. MANY WERE INCLINED --SOMETIMES NOT UNJUSTIFIABLY -- TO FOCUS RESPONSIBILITY FOR THIS FACT ON GUIDANCE COUNSELORS WHOM THEY BELIEVED TO BE SCHEDULING PRIMARILY THE STUDENTS WITH LOWER BASIC SKILLS OR BEHAVIORAL PROBLEMS INTO VOCATIONAL EDUCATION PROGRAMS. I DARE SAY THAT MOST VOCATIONAL EDUCATORS, QUERIED AS TO THE TIME IN THE SCHOOL EXPERIENCE WHEN RADICAL CHANGES NEED TO BE MADE, WOULD POINT TO THE ELEMENTARY, JUNIOR HIGH, OR MIDDLE SCHOOLS, AS BEING EQUAL

CANDIDATES WITH THE HIGH SCHOOLS FOR DRAMATIC IMPROVEMENTS. IN YOUR REVIEW OF THE POTENTIAL ROLE OF VOCATIONAL EDUCATION, I URGE YOU NOT TO REJECT THE CONSIDERATION THAT, FOR SOME YOUNG PEOPLE, SENIOR HIGH SCHOOL CAREER GUIDANCE AND VOCATIONAL EDUCATION INTERVENE TOO LITTLE AND TOO LATE TO MEET THE DEVELOPMENTAL NEEDS OF THE STUDENTS.

THE GOALS WE PURSUED IN THE 70'S TOWARD THE INFUSION OF CAREER AWARENESS ACTIVITIES INTO THE ELEMENTARY GRADES NEED TO HAVE OUR RENEWED COMMITMENT, AND A NEW EMPHASIS NEEDS TO BE PLACED ON CONCRETE, PROJECT-ORIENTED ACTIVITIES DEVOTED TO BOTH THE ACQUISITION AND THE APPLICATION OF BASIC SKILLS. IT SEEMS INAPPROPRIATE TO ME IN THE NAME OF EXCELLENCE TO ADD A FOREIGN LANGUAGE REQUIREMENT TO THE SENIOR HIGH SCHOOL LEVEL FOR ALL STUDENTS WHEN WE ALREADY KNOW THAT THE GREATEST POTENTIAL FOR LANGUAGE ACQUISITION EXISTS IN THE PRE-SCHOOL AND EARLY-ELEMENTARY YEARS. IT IS PATENT NONSENSE TO WAIT UNTIL SENIOR HIGH SCHOOL TO TRY TO IMBUE THE CHILD WITH A SENSE OF SELF-EFFICACY AND SELF DETERMINATION. WE KNOW THAT MALADAPTIVE PATTERNS OF CASUAL ATTRIBUTION ARE ALREADY MEASURABLE BY THE FIFTH GRADE (BAR-TAL 1978). SIGNIFICANT DIFFERENCES HAVE BEEN MEASURED AMONG CHILDREN IN PATTERNS OF BEHAVIORAL ATTRIBUTION, DEPENDING ON THE CHILD'S SOCIO-CULTURAL AND SOCIO-ECONOMIC BACKGROUND.

THE STATE OF NEW JERSEY HAS BEEN AT THE VANGUARD AS ONE EXAMPLE OF WHAT I MEAN FOR THE ELEMENTARY GRADES. BEGUN IN 1966 AND NOW REACHING MORE THAN 178,000 ELEMENTARY SCHOOL CHILDREN, "T4C" OR TECHNOLOGY FOR CHILDREN (NEW JERSEY DEPARTMENT OF EDUCATION) IS WIDELY VIEWED AS A NEW WAY TO MAKE THE EXISTING CURRICULUM MORE EFFECTIVE AND MORE RELEVANT. AS CHILDREN USE TOOLS, MACHINES AND EQUIPMENT OF MODERN TECHNOLOGY, THEY DEVELOP THEIR POWERS OF THINKING, INVESTIGATING, PLANNING, PROBLEM SOLVING, INVENTING, COMMUNICATING, CALCULATING, COLLABORATING AND CONSTRUCTING. ALSO DEVELOPED IN THIS EXPLORATORY PROCESS ARE THE HABITS OF SELF-CONTROL, COOPERATION, PATIENCE, AND GENEROSITY ALONG WITH A WHOLESOME APPRECIATION OF THE NEED FOR WORK.

IN ADDITION TO FOCUSING ON THE NEED FOR IMPROVEMENTS IN THE EARLIER GRADES, SOMEONE MUST CONTINUE TO BE CONCERNED ABOUT THE PARENTS' ROLE IN EARLY CHILDHOOD DEVELOPMENT AND, WITHIN THAT ROLE, THE FOSTERING OF A NEED AND A YEARNING TO LEARN AND THE BELIEF OF THE CHILDREN THAT THEIR ABILITIES AND HARD WORK ARE THE PRIMARY DETERMINERS OF SUCCESS OR FAILURE IN ACCOMPLISHMENTS THEY ATTEMPT. CHILDREN WHO GROW UP BELIEVING THAT THEY SUCCEED OR FAIL DUE PRIMARILY TO EXTERNAL FORCES BEYOND THEIR CONTROL ARE ILL EQUIPPED TO DEAL WITH THE DEMANDING, COMPETITIVE WORLD OF LEARNING AND WORK WE MUST MAINTAIN IF WE ARE TO COMPETE IN WORLD MARKETS IN THE FUTURE.

THE IMPORTANCE OF EDUCATION AND TRAINING IN PARENTING, EARLY CHILDHOOD DEVELOPMENT, AND HOME MANAGEMENT IS INTENSIFYING, NOT ABATING, AS THE SOCIETY IS MOVING TO ONE WITHIN WHICH BOTH PARENTS PURSUE CAREERS OUTSIDE THE HOME. OUR EMERGING AWARENESS OF DOMESTIC NEGLECT, ABUSE, AND VIOLENCE UNDERSCORES THE NECESSITY FOR A REEMPHASIS ON EDUCATION AND TRAINING FOR THE SURVIVAL AND WELL BEING OF THE FAMILY AS A VIABLE SOCIAL UNIT.

EXPECTATIONS FOR GROWTH IN THE BASIC SKILLS AT THE JUNIOR HIGH SCHOOL LEVEL MUST BE RAISED AND THE LATENT, OFTEN MISCHIEF-DIRECTED, ENERGIES OF STUDENTS MUST BE REDIRECTED TO SERIOUS, PROJECT AND ACTIVITY-ORIENTED OPPORTUNITIES TO EXPLORE GROWING POTENTIALITIES IN RELATION TO THE DEMANDS OF THE REAL WORLD OF ADULTHOOD AND WORK. IN MANY INSTANCES, THE JUNIOR HIGH SCHOOL CURRICULUM IS DEVOID OF EITHER CHALLENGE OR THE OPPORTUNITY TO TURN PRE-ADOLESCENT ENERGY ONTO THE ACCOMPLISHMENT OF LEARNING TASKS DESIGNED TO DEVELOP POSITIVE SELF-IDENTITIES AND HELP STUDENTS COMPREHEND THE IMPERATIVE THAT INDIVIDUALS CONTROL, DIRECT, AND ASSUME PERSONAL RESPONSIBILITY FOR THE COURSE OF THEIR OWN LIVES AND CAREERS. JUNIOR HIGH SCHOOL STUDENTS, MORE THAN OTHERS, ARE "MARKING TIME" WHEN THEY ARE NOT ENGAGED IN BOTH PRODUCTIVE CAREER-RELATED EXPLORATION AND CONCRETE, PRACTICAL CHALLENGES IN THE ACQUISITION OF BASIC SKILLS.

LET US MOVE MORE SPECIFICALLY TO THE SENIOR HIGH SCHOOL AND THE ROLE OF VOCATIONAL EDUCATION WITHIN THIS INSTITUTION.

I FIND MYSELF BECOMING MORE AND MORE CONCERNED WITH THE "HIGH-TECH MYTH" THAT HIGH SCHOOL GRADUATES WILL NOT BE ABLE TO GET OR KEEP JOBS UNLESS THEY HAVE ADVANCED COURSES IN MATHEMATICS, SCIENCE, AND TECHNOLOGY. I AM IMPRESSED BY THE POSITION TAKEN TOWARD THIS NOTION IN THE REPORT, "HIGH SCHOOL AND THE CHANGING WORKPLACE." THE COMMITTEE HAS DEFINED WHAT IT MEANS BY A CORE COMPETENCY IN SCIENCE AND TECHNOLOGY; NOT AS PHYSICS, CHEMISTRY, AND CALCULUS, TAUGHT ABSTRACTLY, BUT AS THE ABILITY TO DEAL EFFECTIVELY WITH MECHANICAL AND ELECTRONIC EQUIPMENT, TO UNDERSTAND HOW THINGS WORK AND THE TECHNOLOGIES AND SCIENTIFIC PRINCIPLES THAT UNDERLIE HOW THESE THINGS WORK. THE REPORT IS EXPLICIT WHEN MAKING THE OBSERVATION THAT THE COMPETENCIES DESCRIBED ARE BEST ACHIEVED BY COMBINING CLASSROOM STUDY WITH PRACTICAL EXPERIENCE.

THE REPORT ACKNOWLEDGES THAT NOT ALL HIGH SCHOOL GRADUATES NEED TO BECOME ELECTRONIC ENGINEERS OR COMPUTER PROGRAMMERS; GRADUATES MUCH MORE NEED TO KNOW THE BASICS OF HOW COMPUTERS WORK AND HOW THEY CAN OR CANNOT BE USED WITH THE SOFTWARE AVAILABLE.

A VIABLE ALTERNATIVE TO TECHNOLOGY PROGRAMS DEFINED AS PHYSICS, CHEMISTRY, AND CALCULUS, TAUGHT ABSTRACTLY, WILL BE THE INTRODUCTION TO TECHNOLOGY CURRICULUM NOW IN DEVELOPMENT AND BEING SUPPORTED BY A CONSORTIUM OF 21 STATE DIRECTORS OF VOCATIONAL EDUCATION. A SECOND ALTERNATIVE IS THE "TWO PLUS TWO" ASSOCIATE DEGREE PROGRAM (PARNELL 1983) WHERE PRETECHNICAL INSTRUCTION IN THE HIGH SCHOOLS IS DESIGNED NOT TO DUPLICATE COLLEGIATE LEVEL CLASSES BUT TO ESTABLISH A FIRM, WELL-SEQUENCED FOUNDATION IN TECHNICAL PREPARATION UPON WHICH TO BUILD A HIGHLY SOPHISTICATED ASSOCIATE DEGREE PROGRAM IN SUCH FIELDS AS NURSING AND COMPUTER SCIENCE. AMONG THE STATES MOVING WITH THE "TWO PLUS TWO" CONCEPT ARE NEW MEXICO, MINNESOTA, ILLINOIS, WISCONSIN, WASHINGTON, SOUTH CAROLINA, OHIO, AND VIRGINIA.

THERE IS NO QUESTION IN MY MIND THAT ACCOMPLISHING THE KINDS OF OUTCOMES BEING DESCRIBED IN THE REPORT, "HIGH SCHOOLS AND THE CHANGING WORKPLACE," FOR HIGH SCHOOL GRADUATES WOULD MEAN NOT "DEVOCATIONALIZING" THE HIGH SCHOOLS, BUT MORE NEARLY "VOCATIONALIZING" THE ACADEMIC AND GENERAL EDUCATION CLASSROOM.

I WILL BE AMONG THE FIRST TO ADMIT THAT, BY FOCUSING TOO HEAVILY ON THE DELIVERY OF SPECIFIC JOB SKILLS, VOCATIONAL EDUCATION HAS UNDERSOLD ITS CONTRIBUTIONS TO THE OVERALL EDUCATION OF YOUNG PEOPLE. THAT OVEREMPHASIS HAS, AT TIMES, BEEN A REACTION TO OUR CRITICS WHO HAVE OFTEN ACCUSED US OF PLACING TOO GREAT A FOCUS ON EDUCATION AND TOO LITTLE ON THE "FAST TURN AROUND" TRAINING

REQUIRED FOR A SINGLE JOB. WE HAVE THUS NOT COMMUNICATED WELL THE FACT THAT VOCATIONAL EDUCATION, MORE THAN ANY OTHER CURRICULUM OFFERED IN THE SCHOOLS, DOES DEAL WITH "HOW THINGS WORK IN A LABORATORY ENVIRONMENT." WE DO TEACH REASONING AND PROBLEM SOLVING AND THE APPLIED SCIENCE, TECHNOLOGY, AND COMPUTATIONAL SKILLS NECESSARY IN THE WORK FOR WHICH WE ATTEMPT TO EDUCATE YOUNG PEOPLE. WE TEACH THE PERSONAL WORK HABITS AND ATTITUDES WHICH ARE BROADLY APPLICABLE TO SUCCESS IN THE WORKING WORLD.

PERHAPS THESE ARE THE MORE ELUSIVE ASPECTS OF VOCATIONAL EDUCATION TO WHICH WOODS AND HANEY (1982) REFERRED WHEN THEY SAID: "WHAT SEEMS TO BE HAPPENING IS THAT VOCATIONAL EDUCATION STUDENTS ATTAIN BASIC SKILLS WHICH ARE ROUGHLY EQUIVALENT TO THOSE OF GENERAL HIGH SCHOOL PROGRAM GRADUATES, BUT THAT IN ADDITION, THEY RECEIVE SOMETHING ELSE WHICH GIVES THEM AN EDGE, AT LEAST IN SOME CASES, IN THE JOB MARKET."

WHEN I VIEW THE VOCATIONAL EDUCATION PROGRAM IN TOTAL, INCLUDING THE CITIZENSHIP, PUBLIC SPEAKING, AND LEADERSHIP SKILLS DEVELOPED THROUGH PARTICIPATION IN THE VOCATIONAL STUDENT ORGANIZATIONS, I CONCLUDE THAT STUDENTS WHO PARTICIPATE FULLY (INCLUDING WORK EXPERIENCE OR COOPERATIVE EDUCATION) PROBABLY HAVE A BETTER-ROUNDED, MORE APPROPRIATE EDUCATION FOR THE WORK WORLD THAN MANY COLLEGE GRADUATES. WHERE VOCATIONAL EDUCATION STUDENT ORGANIZATIONS EXIST, ALL VOCATIONAL EDUCATION STUDENTS PARTICIPATE, UNLIKE MANY ACTIVITIES IN THE BROADER SCHOOL CURRICULUM WHERE PARTICIPATION IS HIGHLY SELECTIVE OR DEPENDS ON THE POSSESSION OF

PARTICULAR SKILLS OR TALENTS. IT WOULD BE MISLEADING, INDEED, TO ASSERT THE EVEN MOST VOCATIONAL EDUCATION STUDENTS HAVE AN IDEAL JOB PREPARATION EXPERIENCE. IT IS OBVIOUS THAT PROGRAMS DIFFER WIDELY IN THEIR RIGOR, IN THE CURRENCY OF THEIR CURRICULUM, AND IN THE QUALITY OF THEIR EQUIPMENT. WE MAKE NO APOLOGIES. THE BASIC FACT REMAINS THAT EVEN SIMULATED LEADERSHIP AND WORK EXPERIENCES HAVE TO BE CONSIDERED SUPERIOR TO NO SUCH EXPERIENCES. AND VOCATIONAL EDUCATORS, NO LESS THAN THEIR COUNTERPARTS IN THE MILITARY, ARE LIMITED BY AVAILABLE RESOURCES.

BOTH MILITARY TRAINERS TRAINING FIGHTER PILOTS AND FEDERAL AVIATION ADMINISTRATION TRAINERS TRAINING AIR TRAFFIC CONTROLLERS USE SIMULATION TECHNIQUES BEFORE THEY EXPECT THEIR TRAINEES TO EXERCISE THEIR SKILLS ON CURRENT EQUIPMENT AND IN ACTUAL WORK SITUATIONS. THE "LATEST EQUIPMENT", IN FACT, IS SOMETIMES LESS EFFECTIVE FOR TEACHING "HOW THINGS WORK" THAN OLDER EQUIPMENT. PROCESSES, PROCEDURES, AND PRINCIPLES WHICH UNDERLIE HOW THINGS WORK, THOUGH STILL OCCURRING, ARE OFTEN "BLACK-BOXED" IN THE MORE RECENT, TECHNOLOGICALLY SOPHISTICATED EQUIPMENT. IN THIS CASE, THEY CAN BE TAUGHT CONCRETELY ON OLD EQUIPMENT, BUT ONLY ABSTRACTLY ON THE NEW.

LET US ACKNOWLEDGE, ALSO, THAT VOCATIONAL EDUCATION IN THE SENIOR HIGH SCHOOL IS CAUGHT BETWEEN THE "DEVIL AND THE DEEP BLUE SEA" ON OTHER ISSUES AS WELL.

ON THE ONE HAND, PROGRAMS IN COMPREHENSIVE SCHOOLS ARE CRITICIZED FOR OUT-OF-DATE EQUIPMENT; AND, ON THE OTHER HAND, PROGRAMS IN SEPARATE AREA VOCATIONAL EDUCATION FACILITIES, THOUGH APPLAUDED FOR EQUIPMENT, ARE CRITICIZED FOR TRACKING YOUNG PEOPLE INTO AN ENVIRONMENT THAT REMOVES THEM FROM ONGOING, ADVANCED ACADEMIC COURSES. NEITHER UP-TO-THE MINUTE EQUIPMENT NOR READY ACCESS TO ADVANCED ACADEMIC COURSES SEEMS NEARLY SO IMPORTANT TO ME AS THE OVERRIDING IMPERATIVE THAT NO YOUNG PERSONS BE DENIED THE OPPORTUNITY OR THE BENEFIT OF ASSISTANCE IN GETTING WHATEVER PROGRAMS THEY NEED TO DEVELOP THEMSELVES TO THE UPPER LIMITS OF THEIR ABILITIES AND THEIR WILLINGNESS TO SUCCEED, BOTH ACADEMICALLY AND VOCATIONALLY. COMPLETELY DELAYING ACCESS TO VOCATIONAL EDUCATION EXPERIENCES (WHETHER SIMULATED, DELIVERED IN UP-TO-THE MINUTE LABORATORIES OR IN PRIVATE INDUSTRY) UNTIL THE POSTSECONDARY LEVEL WILL NOT INCREASE THE NUMBERS OF YOUNG PEOPLE WHO EXIT SCHOOL WITH MINIMUM COMPETENCIES IN THE BASIC SKILLS. WE KNOW THAT VOCATIONAL EDUCATION HAS "HOLDING POWER" FOR MANY DROPOUT PRONE STUDENTS. ITS ABSENCE MAY BE EXPECTED TO REDUCE THE NUMBERS OF YOUNG PEOPLE WHO EXIT SCHOOL WITH MINIMUM COMPETENCIES, NOT INCREASE THEM.

A REMAINING ISSUE ABOUT WHICH THERE IS CONSISTENT CONTROVERSY IS WHETHER VOCATIONAL EDUCATION OUGHT TO FOCUS ON SPECIFIC JOB SKILLS WHICH ARE IN DEMAND TODAY OR ON GENERAL, TRANSFERABLE SKILLS WHICH WILL BE USEFUL TOMORROW. IN CONTRAST TO THE CURRENT "HIGH/TECH MYTH", THE VOCATIONAL PROGRAMS IN ROCHESTER, NEW YORK, WERE RECENTLY CRITICIZED BY BOYD AND CLINE (1981) AND I QUOTE: "TOO MANY STUDENTS ARE STILL BEING CHANNELED INTO TRADITIONAL TECHNICAL AREAS OF VOCATIONAL EDUCATION, WHERE JOB PLACEMENT WILL BE DIFFICULT, WHEN IN FACT THERE IS REAL GROWTH ELSEWHERE, IN THE SERVICE AREA." THE "BOTTOM LINE" IN THE CASE OF PROGRAM CONTENT SEEMS TO ME TO BE THAT GRADUATES OF VOCATIONAL EDUCATION PROGRAMS GET JOBS AND THEY SUCCEED IN THE WORLD OF WORK. THEY BOTH GET AND KEEP BETTER JOBS THAN IF THEY HAD NOT TAKEN A VOCATIONAL EDUCATION PROGRAM AT ALL.

TO DEPRIVE VOCATIONAL EDUCATION STUDENTS OF WHAT HAS WORKED WELL FOR THEM IN ORDER TO GIVE THEM MORE OF WHAT HAS NOT WORKED NEARLY SO WELL FOR THEIR GENERAL EDUCATION COUNTERPARTS SIMPLY MAKES NO SENSE. TO MAKE THE CONTENT OF VOCATIONAL EDUCATION PROGRAMS SO GENERAL THAT THEY ARE NO LONGER IDENTIFIABLE WITH A SPECIFIC JOB WILL MAKE OUR PROGRAMS AS ABSTRACT AS THE PROGRAMS THE YOUNG PEOPLE CAME INTO VOCATIONAL EDUCATION TO ESCAPE. IT WOULD DEPRIVE US OF EVEN THE IMAGE OF RELEVANCY IN THE EYES OF STUDENTS AND WOULD DEPRIVE US OF THE "REAL LIFE" SITUATIONS OR SIMULATIONS

THAT NOW SERVE AS A PLATFORM IN THE LABORATORY UPON WHICH TO TEACH THE MORE ABSTRACT NOTIONS OF "WORK ETHIC", "SCIENTIFIC APPROACHES TO PROBLEMSOLVING", AND "AN UNDERSTANDING OF THE NEED FOR ORGANIZATION, SUPERVISION, RULES, POLICIES, AND PROCEDURES." THESE ABSTRACT NOTIONS ARE BEST LEARNED IN APPLICATION, NOT IN ENVIRONMENTS WHERE ALL PEOPLE DO IS TALK ABOUT THEM.

ALL OF THIS IS NOT TO SAY THAT VOCATIONAL EDUCATION CANNOT IMPROVE ITS CONTRIBUTIONS TO AN EXCELLENT EDUCATION AT THE HIGH SCHOOL LEVEL. I AM CONVINCED THAT VOCATIONAL EDUCATION CAN AND WILL IMPROVE, ESPECIALLY WHEN GIVEN SOLID, CONSTRUCTIVE DIRECTIONS THAT IMPROVE PROGRAMS RATHER THAN "THROW OUT THE BABY WITH THE BATHWATER." SOME IMPORTANT, PRACTICAL DIRECTIONS FOR PROGRAM IMPROVEMENT, IT SEEMS TO ME, AMONG OTHERS, WOULD BE TO:

- IMPROVE OUR IMAGE AS BEING RELEVANT TO TODAY'S WORK WORLD BY EMPHASIZING ASPECTS OF PROGRAMS WHICH ARE HIGHLY TRANSFERRABLE ACROSS JOBS AND OCCUPATIONS BOTH IN THE HOME AND IN THE WORKPLACE.

- IMPROVE OUR EFFORTS, AND OUR DOCUMENTATION, TO ENSURE THAT VOCATIONAL EDUCATION PROGRAM GRADUATES ARE ABLE TO DEMONSTRATE THEIR MASTERY OF AGREED-UPON COMPETENCIES THROUGH ASSESSMENT AND TRAINING, AND WHERE NECESSARY, REMEDIATION.

- Improve our documentation of business, industrial, and institutional support for vocational education at the high school level--support that is more obvious at the Plant Manager/Personnel Director level than at the Chief Executive Officer level.

- Improve our designation of who is and who is not a completer of a vocational education program so that we can differentiate the completer from a student who has enrolled for only one or two courses.

- Raise our standards for both specific job skills and core competencies related to worker adaptability.

- Increase the interaction between vocational education instructors, their students, and the businesses and industries representing potential employers. In this instance, greater employer involvement in the validation of graduate competencies could be pursued to good advantage.

- EMPHASIZE THE FACT THAT CONCRETE APPLICATIONS OR SIMULATIONS FROM THE WORK WORLD IN A JOB OR AN OCCUPATIONAL AREA OF INTEREST TO THE LEARNER (WHETHER OR NOT THE LEARNER ENDS UP EMPLOYED THERE) IS AN APPROPRIATE BASIS UPON WHICH TO TEACH THE MORE TRANSFERRABLE SKILLS OF REASONING AND PROBLEMSOLVING, APPLIED COMPUTATION, SCIENCE AND TECHNOLOGY; ORAL COMMUNICATIONS; INTERPERSONAL RELATIONSHIPS; ECONOMICS; AND PERSONAL WORK HABITS AND ATTITUDES.

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FURTHER, I BELIEVE THAT WE CAN IMPROVE OUR RELATIONSHIPS WITH ACADEMIC AND GENERAL EDUCATION TEACHERS AT BOTH THE JUNIOR HIGH AND SENIOR HIGH SCHOOL LEVELS IN MANY WAYS, AMONG THEM BEING:

- MAKING OUR STAFF DEVELOPMENT ACTIVITIES AS GENERIC AS POSSIBLE WITH RESPECT TO SPECIFIC OCCUPATIONAL CONTENT AND ENSURING NO SEATS ARE UNFILLED SO LONG AS THERE ARE ACADEMIC OR GENERAL EDUCATION TEACHERS WHO ARE INTERESTED IN INCREASING THE APPLIED NATURE OR THE WORK-RELATEDNESS OF THEIR INSTRUCTIONAL METHODOLOGIES.

- OFFERING OUR EXPERTISE AND OUR LABORATORIES WHEN TEACHERS IN OTHER DISCIPLINES EXPRESS AN INTEREST IN DELIVERING INSTRUCTION THAT IS MORE PROJECT-ORIENTED OR MORE WORK-RELATED THAN THEIR OWN FACILITIES WILL ACCOMMODATE.

- ADJUSTING OUR SCHEDULING AND PRODUCTIVITY AT A MINIMUM, AND OUR OVERALL TIME REQUIREMENTS, IF NECESSARY, IN COORDINATION WITH ADJUSTMENTS IN ACADEMIC SCHEDULING, TO ENSURE THAT NO VOCATIONAL EDUCATION STUDENT IS, BY REASON OF OUR INFLEXIBILITY OR OUR LACK OF ENCOURAGEMENT, DENIED THE ABILITY TO DEVELOP TO HIS OR HER HIGHEST ACADEMIC POTENTIAL.

IN CONCLUSION, I BELIEVE THAT THE IMPROVEMENT OF THE PRODUCT OF AMERICAN HIGH SCHOOLS IS JUST AS CRITICAL AS BUSINESS, INDUSTRIAL, AND INSTITUTIONAL LEADERS WOULD HAVE US BELIEVE. VOCATIONAL EDUCATORS MUST DO THEIR PART, ALONG WITH ALL OTHERS, TO ENSURE THAT WE ARE HIGHLY RESPONSIVE TO THE MANDATES FOR IMPROVING AMERICAN EDUCATION FOR ALL YOUNG PEOPLE. TWO INITIATIVES ARE ABSOLUTELY IMPERATIVE: THE BASIC SKILLS OF VOCATIONAL EDUCATION STUDENTS MUST IMPROVE, ALONG WITH THOSE OF ALL HIGH SCHOOL GRADUATES, AND BOTH PARENTS AND EMPLOYERS MUST BE CONVINCED THAT THE GRADUATES OF VOCATIONAL EDUCATION PROGRAMS ARE WELL EQUIPPED FOR A LIFE OF CONTINUED LEARNING AND WORK.

SELECTED REFERENCES

Bar-Tal, Daniel. "Attributional Analysis of Achievement-Related Behavior." Review of Educational Research 48 (Spring 1978): 259-71.

Boyd, William Lowe, and Cline, Harold. Vocational Education in Rochester, New York: A Case Study. University Park, Pennsylvania: Pennsylvania State University, April 1981.

National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, Committee on Science, Engineering, and Public Policy, Report of the Panel on Secondary School Education for the Changing Workplace. High Schools and the Changing Workplace: The Employers' View. Washington, D.C.: National Academy Press, 1984.

National Research Council, Committee on Vocational Education and Economic Development in Depressed Areas, Commission on Behavioral and Social Sciences and Education. Education for Tomorrow's Jobs. Washington, D.C.: National Academy Press, 1983.

New Jersey Department of Education. "Technology for Children Fact Sheet." Trenton, New Jersey.

Parnell, Dale. "'Two Plus Two' Associate Degree Programs." Paper presented at the Education Forum meeting, Washington, D.C., July 1983.

Scheirer, Mary A., and Kraut, Robert E. "Increasing Educational Achievement Via Self Concept Change." Review of Educational Research 49 (Winter 1979): 131-49.

Stipek, Deborah J., and Weisz, J. R. "Perceived Personal Control and Academic Achievement." Review of Educational Research 51 (Spring 1981): 101-37.

Woods, Elinor, and Haney, Walt. Secondary Education, Basic Skills, and Employment. Cambridge, Massachusetts: The Huron Institute, 1982.